Government Polytechnic Kullu ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er Naval Kishor
Discipline	Electrical Engineering
Semester	5th
Subject	SG&P (L-5 Hrs./Week)
Lesson Plan Duration	August – Nov. 2025

Week	Topic	Theory
1st (01Aug. –07Aug.)	Unit – I Basics of Protection	Necessity, functions of protective system, Normal and abnormal conditions
2nd (08Aug. – 14 Aug.)	Unit – I Basics of Protection	Types of faults and their causes. Protection zones and backup protection
3rd (16Aug. – 22Aug.)	Unit – II Circuit Interruption Devices	Isolators - Vertical break, Horizontal break and Pantograph type. HRC fuses – Construction, working, characteristics and applications
4th (23Aug– 29Aug.)	Unit – II Circuit Interruption Devices	Arc formation process, methods of arc extinction (High resistance and Low resistance), Arc voltage, Recovery voltage, Re-striking voltage, RRRV.
5th (30 Aug. –05 Sept.)	Unit – II Circuit Interruption Devices	HT circuit breakers: Sulphur-hexa Fluoride (SF6), Vacuum circuit breaker – (Working, construction, specifications and applications). L.T. circuit breaker: Air circuit breakers (ACB),
6th (06 Sept. – 12 Sept.)	Unit – II Circuit Interruption Devices	Miniature circuit breakers (MCB), Moulded case circuit breakers (MCCB) and Earth leakage circuit breaker (ELCB)) - Working and applications. Brief introduction to gas insulated switchgear.
Class Test – 1		In Second Week of September 2025
7th (13 Sept. – 19 sept)	Unit– III Protective Relays	Fundamental quality requirements: Selectivity, Speed, Sensitivity, Reliability, Simplicity, Economy. Basic relay terminology - Protective relay, Relay time, Pick up, Reset current, current setting, Plug setting multiplier, Time setting multiplier
8th (20 Sept. – 26Sept.)	Unit– III Protective Relays	Protective relays: Classification, principle of working, construction and operation of – Electromagnetic attraction (Attracted armature type, Solenoid type and Watt-hour meter

		type only) relays. Electromagnetic Induction relays: Over current relays: Block diagram, working.
9th (27 Sept. – 03 Oct.)	Unit– III Protective Relays	Distance relaying- Principle, operation of Definite distance relays. Directional relay: Need and operation. Operation of current and voltage differential relay. Brief introduction to Thermal Relay. Brief introduction to Static and Microprocessor based relays and their applications.
10th (04 Oct. – 10 Oct.)	Unit– IV Protection of Alternator and Transformer Alternator Protection	Alternator Protection:Faults, Differential protection over current, earth fault, overheating and field failure protection. Reverse power protection.
Class Test – 2		**In Third Week of October 2025**
11th (11 Oct. – 17 Oct.)	Unit– IV Protection of Alternator and Transformer Alternator	**Transformer Protection** Different Faults (brief introduction), Differential, over current, earth fault, over heating protection.
12th (21 Oct. – 28 Oct.)	Unit– IV Protection of Alternator and Transformer Alternator	Limitations of differential protection. Buchholz relay: Construction, operation, merits and demerits.
13th (29 Oct. – 04 Nov.)	Unit– V Protection of Motors, Bus-bar and Transmission Line Motor	Motors Faults, Short circuit protection, Overload protection, Single phase preventer
House Test		**In Second Week of November 2025**
14th (10 Nov. – 17 Nov.)	Unit– V Protection of Motors, Bus-bar and Transmission Line Motor	**Bus bar and Transmission line** Faults on Bus bar and Transmission Lines. Bus bar protection: Differential and Fault bus protection. Transmission line: Over current, Distance and Pilot wire protection.
15th (18 Nov- 26 Nov)		**Revision and Doubt clearance**

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher/Prepared by
(Er.Naval Kishor)

Signature of HOD
(Er. Aman ANAND)

Government Polytechnic Kullu at Seobagh ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Naval Kishor
Discipline	Electrical Engineering
Semester	5th
Subject	SG&P (P-2 Hrs./Week)
Lesson Plan Duration	Aug- November 2025

Week	Practical No.	Practical Name
1st (4Aug. –11Aug.)	Practical-1	Identify various switchgears in the laboratory and write their specifications
2nd (12Aug. – 18Aug.)		
3rd (19Aug. – 25 Aug.)	Practical-2	Test HRC fuse by performing the load test.
4th (26 Aug – 01Sep.)		
5th (2Sept. –8 Sept.)	Practical-3	Test MCB by performing the load test.
6th (9Sept. –15Sept)		
7th (16Sept. – 22 Sept)	Practical-4	Dismantle MCCB/ELCB and identify various parts.
8th (23Sept. – 29Sept.)		
9th (30Sept. – 6 Oct.)	Practical-5	Dismantle ACB/VCB and identify different parts.
10th (8 Oct. – 14 Oct.)		
11th (15 Oct. – 22 Oct.)	Practical-6	Set the plug and time (with PSM, TSM) of induction type electromagnetic relay.
12th (23 Oct. – 29 Oct.)		
13th (30Oct. – 7 Nov.)	Practical-7	Test electromagnetic over-current relay by performing load test.
14th (17 Nov. – 23Nov.)		
15th (24Nov-26 Nov)	Revision	----------

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Naval Kishor)

01/07/2025
Signature of HOD
(Er. Aman Anand

Government Polytechnic Kullu, Distt. Kullu (H.P)175138
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er Aman Anand
Discipline	Electrical Engineering
Semester	5th
Subject	EC&A (L-5 Hrs./Week)
Lesson Plan Duration	August – December 2025

Week	Topic	Theory
1st (4Aug. –11Aug.)	**Unit – I Energy Conservation Basics**	Energy Scenario: Primary and Secondary Energy, Energy demand and supply, National scenario.Energy conservation
2nd (12Aug. – 18Aug.)	**Unit – I Energy Conservation Basics**	Energy audit; concepts and difference Star Labelling: Need and its benefits
3rd (19Aug. – 25 Aug.)	**Unit – II Energy Conservation in Electrical Machines**	Need for energy conservation in induction motor. Energy conservation techniques in induction motor by: Motor survey Matching motor to load
4th (26 Aug – 01Sep.)	**Unit – II Energy Conservation in Electrical Machines**	Operating in star mode. Rewinding of motor. Replacement by energy efficient motor, Periodic maintenance
5th (2Sept. –8 Sept.)	**Unit – II Energy Conservation in Electrical Machines**	Energy efficient motor; significant features, advantages, applications and limitations. Need for energy conservation in transformer: Energy efficient transformers, amorphous transformers; epoxy Resin cast transformer / Dry type of transformer
Class Test – 1		**In Second Week of September 2025.**
6th (9Sept. –15Sept)	**Unit– III Energy conservation in Electrical Installation systems**	Aggregated Technical and commercial losses (ATC); Power system at state, regional, national and global level. Technical losses; causes and measures to reduce these (no expression only theory part) a) Controlling I 2R losses
7th (16Sept. – 22 Sept)	**Unit– III Energy conservation in Electrical Installation systems**	b) Optimizing distribution voltage c) Balancing phase currents Energy conservation in lighting sources:
8th (23Sept. – 29Sept.)	**Unit– III Energy conservation in Electrical Installation systems**	a) Replacing Lamp sources. b) Using energy efficient luminaries
9th (30Sept. – 6 Oct.)	**Unit– IV Energy conservation through Cogeneration and Tariff**	Co-generation and Tariff; concept, significance for energy conservation Co-generation Types of cogenerations on basis of sequence of energy use (basic introduction to Topping cycle & Bottoming cycle)
10th (8 Oct. – 14 Oct.)	**Unit– IV Energy conservation**	Types of cogeneration basis of technology (Steam turbine cogeneration, Gas turbine cogeneration). Factors

	through Cogeneration and Tariff	governing the selection of cogeneration system, advantages of cogeneration.
Class Test – 2		**In Third Week of October 2025.**
11th (15 Oct. – 22 Oct.)	**Unit– IV Energy conservation through Cogeneration and Tariff**	Tariff: Types of tariff structure: Special tariffs; Time-off-day tariff, Peak-off-day tariff, Power factor tariff, Maximum Demand tariff, Load factor tariff. Application of tariff system to reduce energy bill.
12th (23 Oct. – 29 Oct.)	**Unit– V Energy Audit of Electrical System**	Energy audit (definition as per Energy Conservation Act) Energy audit instruments and their use
13th (30Oct. – 7 Nov.)	**Unit– V Energy Audit of Electrical System**	Questionnaire for energy audit projects. Energy flow diagram (Sankey diagram)
House Test		**In Second Week of November 2025.**
14th (17 Nov. – 23Nov.)	**Unit– V Energy Audit of Electrical System**	Questionnaire for energy audit projects.Energy flow diagram (Sankey diagram)
15th (24Nov-26 Nov)	**Revision**	Revision & doubt clearance

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Aman Anand)

Principal
Govt. Polytechnic,
Kullu at Seobagh (H.P.)

Government Polytechnic Kullu at Seobagh ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Lalit Kumar
Discipline	Electrical Engineering
Semester	5th
Subject	EC&A (P-2 Hrs./Week)
Lesson Plan Duration	Aug Dec 2025

Week	Practical No.	Practical Name
1st (4Aug. –11Aug.)	Practical-1	Identify star labelled electrical apparatus and compare the data for various star ratings.
2nd (12Aug. – 18Aug.)		
3rd (19Aug. – 25 Aug.)	Practical-2	Determine the reduction in power consumption by replacement of lamps in a class room /laboratory.
4th (26 Aug – 01Sep.)		
5th (2Sept. –8 Sept.)	Practical-3	Determine the reduction in power consumption by replacement of Fans and regulators in a class room / laboratory.
6th (9Sept. –15Sept)		
7th (16Sept. – 22 Sept)	Practical-4	Collect electricity bill of a residential consumer and suggest suitable means for conservation and reduction of the energy bill.
8th (23Sept. – 29Sept.)		
9th (30Sept. – 6 Oct.)	Practical-5	Prepare an energy audit report (Phase-I)
10th (8 Oct. – 14 Oct.)		
11th (15 Oct. – 22 Oct.)	Practical-6	Prepare an energy audit report (Phase-II)
12th (23 Oct. – 29 Oct.)		
13th (30Oct. – 7 Nov.)	Practical-7	Prepare an energy audit report (Phase-III)
14th (17 Nov. – 23Nov.)		
15th (24Nov-26 Nov)	Revision	----------

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Lalit Kumar)

01/08/2025

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu, Distt. Kullu (H.P)175138
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er Lalit Kumar
Discipline	Electrical Engineering
Semester	5th
Subject	Solar Power Technologies (L-5 Hrs./Week)
Lesson Plan Duration	August – November 2025

Week	Topic	Theory
1st (4Aug. –11Aug.)	Unit – I Unit – I Solar Energy	Solar Map of India: Global solar power radiation Different types of Solar water heaters: Construction, working.
2nd (12Aug. – 18Aug.)	Unit – I Unit – I Solar Energy	Different types of solar cookers, Solar Drying process, solar lighting, and Preventive maintenance of all of the above.
3rd (19Aug. – 25 Aug.)	Unit – II Concentrated Solar Power (CSP)	Concentrated Solar Power (CSP) plants or solar thermal electric systems
4th (26 Aug – 01Sep.)	Unit – II Concentrated Solar Power (CSP)	Parabolic Trough: Construction, working and specifications Parabolic Dish: Construction, working and specifications
5th (2Sept. –8 Sept.)	Unit – II Concentrated Solar Power (CSP)	Fresnel Reflectors: Construction, working and specifications Preventive maintenance of all of the above
Class Test – 1		In Second Week of September 2025.
6th (9Sept. –15Sept)	Unit– III Solar PV Systems	Solar PV cell: Types, construction, working of solar cells. Solar PV working principle: Series and parallel connections of solar modules
7th (16Sept. – 22 Sept)	Unit– III Solar PV Systems	Solar Photovoltaic (PV) system: components, layout and working. Solar modules and solar arrays.
8th (23Sept. – 29Sept.)	Unit– III Solar PV Systems Unit– IV Solar PV Electronics	Solar PV systems and typical specifications. Maintenance of all of the above. Solar Charge controllers: working and specifications, switchgear and cables Batteries: Different types for solar PV systems
9th (30Sept. – 6 Oct.)	Unit– IV Solar PV Electronics	Solar Inverters: working and specifications Solar Power tracking: construction, working
10th (8 Oct. – 14 Oct.)	Unit– IV Solar PV Electronics	tilt angle, maximum power point tracking (MPPT) Maintenance of these systems.
Class Test – 2		In Third Week of October 2025.

11th (15 Oct. – 22 Oct.)	**Unit– V Solar PV Off-grid and Grid Tied Systems**	Solar off grid systems: layout and specifications
12th (23 Oct. – 29 Oct.)	**Unit– V Solar PV Off-grid and Grid Tied Systems**	Solar Grid tied (on grid) systems: Working principle of grid-tied dc-ac inverter.
13th (30Oct. – 7 Nov.)	**Unit– V Solar PV Off-grid and Grid Tied Systems**	Grid synchronization and active power export..
House Test		**In Second Week of November 2025.**
14th (17 Nov. – 23Nov.)	**Unit– V Solar PV Off-grid and Grid Tied Systems**	Brief introduction to Solar-Wind Hybrid systems.
15th (24Nov-26 Nov)	**Revision**	Revision & doubt clearance

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Lalit Kumar)

01/12/2025

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu at Seobagh ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Lalit Kumar
Discipline	Electrical Engineering
Semester	5th
Subject	SPT (P-2 Hrs./Week)
Lesson Plan Duration	Aug Dec 2025

Week	Practical No.	Practical Name
1st (4Aug. –11Aug.)	Practical-1	Assemble the parabolic dish CSP plant.
2nd (12Aug. – 18Aug.)		
3rd (19Aug. – 25 Aug.)	Practical-2	Dismantle the parabolic dish CSP plant.
4th (26 Aug – 01Sep.)		
5th (2Sept. –8 Sept.)	Practical-3	Troubleshoot a CSP plant
6th (9Sept. –15Sept)		
7th (16Sept. – 22 Sept)	Practical-4	Assemble the solar PV system.
8th (23Sept. – 29Sept.)		
9th (30Sept. – 6 Oct.)	Practical-5	Dismantle the solar PV system
10th (8 Oct. – 14 Oct.)		
11th (15 Oct. – 22 Oct.)	Practical-6	Troubleshoot a solar PV system
12th (23 Oct. – 29 Oct.)		
13th (30Oct. – 7 Nov.)	Practical-7	Troubleshoot a solar PV panels and arrays
14th (17 Nov. – 23Nov.)		
15th (24Nov-26 Nov)	Revision	----------

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Lalit Kumar)

01/03/2025

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er Sandeep Bhardwaj
Discipline	Electrical Engineering
Semester	5th
Subject	Electric Vehicles (L-3 & DCS-2 Hrs./Week)
Lesson Plan Duration	August – Nov. 2025

Week	Topic	Theory
1st (01Aug. –07Aug.)	Unit – I Introduction to Hybrid Electric Vehicles	Evolution of Electric vehicles Introduction to advanced Electric drive vehicle technology
2nd (08Aug. – 14 Aug.)	Unit – I Introduction to Hybrid Electric Vehicles	Vehicle types-Electric vehicles (EV), Hybrid Electric drive (HEV),
3rd (16Aug. – 22Aug.)	Unit – I Introduction to Hybrid Electric Vehicles	Plug in Electric vehicle (PIEV), Advantages of HEV over ICE
4th (23Aug– 29Aug.)	Unit – II Dynamics of hybrid and Electric vehicles	General description of vehicle movement, Factors affecting vehicle motion - Vehicle resistance, tyre ground adhesion, rolling resistance, aerodynamic drag.
5th (30 Aug. –05 Sept.)	Unit – II Dynamics of hybrid and Electric vehicles	Classification of motors used in Electric vehicles (brief introduction)
6th (06 Sept. – 12 Sept.)	Unit – II Dynamics of hybrid and Electric vehicles	Basic architecture of hybrid drive trains, types of HEVs, Energy saving potential of hybrid drive trains.
Class Test – 1		In Second Week of September 2025
7th (13 Sept. – 19 sept)	Unit– III DC-DC Converters for EV and HEV	EV and HEV configuration based on power converters
8th (20 Sept. – 26Sept.)	Unit– III DC-DC Converters for EV and HEV	Classification of converters – unidirectional and bidirectional, Principle of step down operation.
9th (27 Sept. – 03 Oct.)	Unit– III DC-DC Converters for EV and	Brief introduction of Boost and Buck- Boost converters.

	HEV	
10th (04 Oct. – 10 Oct.)	Unit– IV DC-AC Inverter & Motors for EV and HEVs	DC-AC Converters, Principle of operation of half bridge DC-AC inverter (R load, R-L load)
Class Test – 2		**In Third Week of October 2025**
11th (11 Oct. – 17 Oct.)	Unit– IV DC-AC Inverter & Motors for EV and HEVs	Electric Machines used in EVs and HEVs(brief introduction), principle of operation
12th (21 Oct. – 28 Oct.)	Unit– IV DC-AC Inverter & Motors for EV and HEVs	working of Permanent magnet motors, switched reluctance motor, applications of above motors.
13th (29 Oct. – 04 Nov.)	Unit– V Batteries used in Electric Vehicles	General description of batteries, material required for making batteries (brief introduction). Types of batteries (brief introduction) – Lithium-Ion Batteries
House Test		**In Second Week of November 2025**
14th (10 Nov. – 17 Nov.)	Unit– V Batteries used in Electric Vehicles	Nickel-Metal Hydride Batteries, Lead Acid Batteries and Ultra capacitors. Recycling of Batteries, limitations of Electric Vehicles.
15th (18 Nov- 26 Nov)		**Revision and Doubt clearance**

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Sd

Signature of Teacher/Prepared by
(Er.Sandeep Bhardwaj)

01/08/2025

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu at Seobagh ,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Sandeep Bhardwaj
Discipline	Electrical Engineering
Semester	5th
Subject	Electric Vehicles (P-2 Hrs./Week)
Lesson Plan Duration	Aug- November 2025

Week	Practical No.	Practical Name
1st (4Aug. –11Aug.)	Practical-1	Develop block diagram of Electric vehicle and identify parts.
2nd (12Aug. – 18Aug.)		
3rd (19Aug. – 25 Aug.)	Practical-2	Case study- Compare minimum four vehicles for economic and environmental analysis
4th (26 Aug – 01Sep.)		
5th (2Sept. –8 Sept.)	Practical-3	Develop schematic diagram of hybrid electric vehicle and identify various components.
6th (9Sept. –15Sept)		
7th (16Sept. – 22 Sept)	Practical-4	Prepare report on Plug in Electric vehicle by visiting a charging station
8th (23Sept. – 29Sept.)		
9th (30Sept. – 6 Oct.)	Practical-5	Prepare a report on batteries used from market survey.
10th (8 Oct. – 14 Oct.)		
11th (15 Oct. – 22 Oct.)	Practical-6	Case study- Compare various types of batteries used in electric vehicles
12th (23 Oct. – 29 Oct.)		
13th (30Oct. – 7 Nov.)	Practical-7	List safety procedures and schedule for handling HEVs and EVs.
14th (17 Nov. – 23Nov.)		
15th (24Nov-26 Nov)	Revision	----------

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Sd

Signature of Teacher
(Er. Sandeep Bhardwaj)

01/07/2025

Signature of HOD
(Er. Aman Anand

Government Polytechnic Kullu, Distt. Kullu (H.P)175138
Department of Electrical Engineering
Lesson Plan

Name of Faculty	Er Lalit Kumar
Discipline	Electrical Engineering
Semester	5th
Subject	Wind Power Technologies (L-5 Hrs./Week)
Lesson Plan Duration	August – November 2025

Week	Topic	Theory
1st (4Aug. –11Aug.)	**Unit – I Wind Energy and Wind Power Plants**	Wind power scenario in the world and India. Wind Turbine Terminologies: (definitions only) Rotor blades, hub, nacelle, tower, electric sub-station , Cut in, cut-out and survival wind speeds, Threshold wind speeds, rated power, nominal power, Wind Power Curve.
2nd (12Aug. – 18Aug.)	**Unit – I Wind Energy and Wind Power Plants**	Characteristics of Wind Energy: Wind movement, wind profile, roughness, effects of obstacles in wind path. Rotation principles: Drag and Lift principle, thrust and torque of wind turbine rotor.
3rd (19Aug. – 25 Aug.)	**Unit – II Construction and Working of Large Wind Power Plants.**	Major parts and Functions of WPP (brief introduction): layouts of Geared, Direct-Drive Wind Power Plants.
4th (26 Aug – 01Sep.)	**Unit – II Construction and Working of Large Wind Power Plants.**	Different types of Sensors (brief introduction): Anemometer, wind vane, rpm sensors of main shaft and generator, temperature sensors of nacelle, gearbox and generator; cable untwisting and vibration sensors.
5th (2Sept. –8 Sept.)	**Unit – II Construction and Working of Large Wind Power Plants.**	Different types of Actuators (brief introduction): Electric and hydraulic pitching and yawing mechanisms, cable untwisting and braking mechanisms
Class Test – 1		**In Second Week of September 2025.**
6th (9Sept. –15Sept)	**Unit– III Maintenance of Large Wind Power Plants**	General maintenance of WPPs: preventive maintenance schedule of actuators such as yaw control, pitch control
7th (16Sept. – 22 Sept)	**Unit– III Maintenance of Large Wind Power Plants**	Braking mechanisms and sensors; oiling and greasing; electric and electronic equipment related; tower related; minor repairs, some tips.
8th (23Sept. – 29Sept.)	**Unit– IV Construction and Working Small Wind Turbines**	Types and working of different type of small wind turbines (SWT): Classification: Horizontal and Vertical axis.
9th (30Sept. – 6 Oct.)	**Unit– IV Construction and Working Small Wind Turbines**	Upwind and Downwind, One, Two and Three blade.

10th (8 Oct. – 14 Oct.)	**Unit– IV Construction and Working Small Wind Turbines**	Parts of SWTs: Rotor, generator, gearbox, tower, electric control panel, tale vane, anemometer, wind vane, temperature and rpm sensors.
Class Test – 2		**In Third Week of October 2025.**
11th (15 Oct. – 22 Oct.)	**Unit– V Maintenance of Small Wind Turbines**	Small wind turbine assembly.
12th (23 Oct. – 29 Oct.)	**Unit– V Maintenance of Small Wind Turbines**	Installation of different types of small wind turbines (SWT): tubular and lattice types.
13th (30Oct. – 7 Nov.)	**Unit– V Maintenance of Small Wind Turbines**	SWT Routine maintenance: Tips; Preventive maintenance schedule of: braking mechanisms
House Test		**In Second Week of November 2025.**
14th (17 Nov. – 23Nov.)	**Unit– V Maintenance of Small Wind Turbines**	Sensors; oiling and greasing related; electric and electronic equipment related; tower related; software related, minor repairs
15th (24Nov-26 Nov)	**Revision**	Revision & doubt clearance

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher
(Er. Lalit Kumar)

11/08/2025

Signature of HOD
(Er. Aman Anand)

Government Polytechnic Kullu at Seobagh,Distt. Kullu H.P-175138

Department of Electrical Engineering

Lesson Plan

Name of Faculty	Er. Sandeep Bhardwaj
Discipline	Electrical Engineering
Semester	5th
Subject	illumination practices
Lesson Plan Duration	August – November 2025

Week	Chapters	Topics
1st (4Aug. –11Aug.)	Unit – I Fundamentals of illumination	Basic Illumination, Terminology, Laws of illumination Polar curves (definition only
2nd (12Aug. – 18Aug.)	Unit – I Fundamentals of illumination	Measurement of illumination Lighting calculation methods (brief introduction only)
3rd (19Aug. – 25 Aug.)	Unit – II Types of lamps	Incandescent lamp, ARC lamps – AC and DC arc lamps, Fluorescent lamp. Types of other lamps: Mercury vapour lamp, HPMV lamp
4th (26 Aug – 01Sep.)	Unit – II Types of lamps	Mercury iodide lamp, Sodium vapour lamp, Halogen Lamps, Ultraviolet Lamps, Neon Lamps, Neon Sign Tubes. Metal halides, HID and Arc lamps, LED lamps, CFL, Lasers. Selection Criteria for lamps.
5th (2Sept. –8 Sept.)	Unit– III Illumination Control and Dimmer Circuits	Purpose of lighting control and Dimmer circuits. Working principle and operation of Dimmer circuits. Transformer and their types, Dimmer Transformer
Class Test – 1		**In Second Week of September 2025.**
6th (9Sept. –15Sept)	Unit– III Illumination Control and Dimmer Circuits	Auto transformer dimmer, two winding transformer dimmer Electronic Dimmer: Brief introduction and applications (only
7th (16Sept. – 22 Sept)	Unit– IV Illumination for Interior Applications	Standard for various locations of Interior Illumination. Design considerations for interior location of residences,
8th (23Sept. – 29Sept.)	Unit– IV Illumination for Interior Applications	Commercial & Industrial premises. Illumination schemes for different interior locations of Residential Units ,

9th (30Sept. – 6 Oct.)	Unit– IV Illumination for Interior Applications	Illumination schemes for Commercial & industrial unit.
10th (8 Oct. – 14 Oct.)	Unit– V Illumination for Exterior Applications	Factory Lighting, Street Lighting (Latest Technology)
Class Test – 2		**In Third Week of October 2025.**
11th (15 Oct. – 22 Oct.)	Unit– V Illumination for Exterior Applications	Flood Lighting, Railway Lighting,
12th (23 Oct. – 29 Oct.)	Unit– V Illumination for Exterior Applications	Agriculture and Horticulture lighting
13th (30Oct. – 7 Nov.)	Unit– V Illumination for Exterior Applications	Health Care Centres / Hospitals lighting
House Test		**In Second Week of November 2025.**
14th (17 Nov. – 23Nov.)	Unit– V Illumination for Exterior Applications	Decorating Purposes, Stage Lighting
15th (24Nov-26 Nov)		**Revision**

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Sd/-
Signature of Teacher
(Er. Sandeep Bhardwaj)

31/08/2025
Signature of HOD
(Er. Aman Anand)

Lesson Plan

Name of Teacher: **Geeta Nand** Subject : **Student Centered Activities** Class : **5th Semester Elect. Engg.**

S. No.	Month	Date	Activity to be covered
1	**August**	**4th Aug to 30th Aug**	Declamation Contest
			Cleanliness Drive aroud college campus
			Various Gym activities
2	**September**	**1st Sept to 30 Sept**	Sports activities - Table tennis compitition
			Music contests
			Yoga
3	**Oct & Nov**	**1st Oct to 26th Nov**	Group discussion on varios topics
			Parliamentory discussions
			Exposure to new Technologies.

01/8/25

Faculty Incharge

H.O.D. - Electrical Engg.